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### ABSTRACT OF THE DISCLOSURE

A rotary shaft axial elongation measuring method and device enable accurate measuring of rotary shaft axial elongation regardless of the amount of the elongation. Grooves (10, 12), arranged opposite to each other in a turned V shape along the axial direction, are provided in a rotational surface of the rotary shaft (1) whose axial elongation is to be measured. A sensor (14) is arranged opposite the rotational surface of the rotary shaft (1). The sensor (14) generates pulses upon passing of the grooves (10, 12) following rotation of the rotary shaft (1). As a circumferential interval between the grooves (10, 12) differs according to the axial directional position of the rotary shaft (1), if the positions of the grooves (10, 12) at the position of the sensor (14) change due to the axial elongation, the interval of the pulses generated by the sensor (14) changes. Thus, by the change in the pulse generation interval, the axial elongation is measured.